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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/898,136 | 07/03/2001 | Annie On-Yee Chen | 018926-007300US | 2307 |

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EXAMINER

DINH, MINH

ART UNIT PAPER NUMBER

2132

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/898,136 | CHEN ET AL. | |
| | Examiner | Art Unit | |
| | Minh Dinh | 2132 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 22-35 is/are pending in the application.
- 4a) Of the above claim(s) 22-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed 01/12/2006. Claims 1-4 have been amended; claims 5-22 have been cancelled.
2. The specification has been amended to remove the references to the provisional applications claimed in error. However, Applicant still needs to amend the specification with updated information (e.g., application number or patent number) of related applications as requested in the previous Office Action.

Response to Arguments

3. Applicant's arguments filed 01/12/2006 have been fully considered but they are not persuasive. Applicant argues that Wasilewski teaches storing multiple virtual addresses each being associated with a particular virtual set-top box (i.e., SEES) rather than storing a single virtual address of a virtual set-top box (page 14, 3rd paragraph). Because each SEES has its own unique address, each of Wasilewski multiple virtual addresses is a unique, single address of a virtual set-top box.

Applicant argues that Wasilewski does not disclose encryption, encapsulation, and encoding of a message to be forwarded to a single

fictitious address of a virtual set-top box (page 14, 4th paragraph).
Wasilewski discloses encryption, encapsulation, and encoding of an entitlement management message (EMM) containing the MSK to be forwarded to the SEES using its unique virtual address (fig. 6; col. 15, lines 3-23).

Election/Restrictions

4. Claims 22-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 01/12/2006.

5. In the amendment filed 01/12/2006, claim 22 is withdrawn but listed as "canceled" and claims 23-35 are listed as "not elected". The correct status identifier for claims 21-35 should be "withdrawn". Correction is required.

Specification

6. The disclosure is objected to because of the following informalities: applicant is required to update information (application number or patent

number) of related applications (paragraphs 1, 9-10). Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 recites the limitation "the first cryptographic key" in line 2. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the limitation is interpreted as "a first cryptographic key".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wasilewski et al (6,157,719) in view of "EBU Project Group B/CA" (Functional model of a conditional access system) (hereinafter "EBU Project Group"). Wasilewski discloses a conditional access (CA) system providing conditional access to programs broadcast to a population of set-top boxes. Encryption is performed at different levels to protect broadcast programs: each program is encrypted prior to broadcast using a control word; the control word is encrypted using a multi-session key (MSK) which is a periodic key, the encrypted control word is broadcast to all set-top boxes in an entitlement control message (ECM); and the MSK is encrypted using the key specific to a set-top box entitled to receive the program and transmitted to that set-top box in an entitlement management message (EMM) (Abstract; figures 1, 2A-2B and corresponding text).

With respect to claims 1-3, Wasilewski discloses that the CA system generates a periodic key MSK and sends an EMM containing the MSK to a Service Encryption and ECM Streamer (SEES) so that the SEES can use the MSK to generate the ECMs (fig. 6; col. 15, lines 3-23). Since EMMs are generated only for specific set-top boxes (col. 4, line 64 – col. 5, line 12; and support can also be found in the Specification, paragraphs 5 and 70), the SEES is considered by the system as one set-top box in the population of set-top boxes although it is not an actual set-top box. Therefore, the SEES

meets the limitation of a virtual set-top box and its address, which is unique in the CA system, meets the limitation of a single virtual address of the virtual set-top box (Specification, paragraphs 70-75). Since the SEES generates ECMs according to the MSK which is a periodic key, the SEES is functionally equivalent to an encryption renewal system.

Wasilewski does not disclose sharing, by different conditional access (CA) systems, of the virtual set-top box whose function is generating ECMs. "EBU Project Group" discloses sharing, by different CA systems, of elements such as the Subscriber Authorization System (SAS) that generates ECMs and control words (Section 5.3.3 CA Systems, p. 73-74). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Wasilewski method such that the virtual set-top box is shared by different CA systems, as taught by "EBU Project Group". The motivation for doing so would have been to provide a fair and open market of CA broadcasts to develop (Section 5.3 Sharing of the CA system, p. 73). Accordingly, the address of the shared virtual set-top box is stored in each CA system.

With respect to claim 4, Wasilewski further discloses forwarding an EMM containing the MSK to a set-top box allowing the set-top box to decrypt encrypted content for a designated period (col. 6, lines 56-64; col. 29, lines

12-17). The content is encrypted before being requested by a user (col. 12, lines 41-56) and therefore, meets the limitation of pre-encrypted content.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dinh whose telephone number is 571-272-3802. The examiner can normally be reached on Mon-Fri: 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MD

Minh Dinh
Examiner
Art Unit 2132

MD
4/6/06


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